

## **ABSTRACT**

Apparatus and methods of transmitting a plurality of ultra-wideband pulses through an electric power grid are provided. One embodiment comprises an ultra-wideband device structured to transmit a plurality of ultra-wideband pulses through the power grid and an ultra-wideband receiver structured to receive the plurality of ultra-wideband pulses from the power grid. Another embodiment of the present invention comprises a bridging system structured to transfer ultra-wideband pulses around power grid devices. This Abstract is provided for the sole purpose of complying with the Abstract requirement rules that allow a reader to quickly ascertain the subject matter of the disclosure contained herein. This Abstract is submitted with the explicit understanding that it will not be used to interpret or to limit the scope or the meaning of the claims.